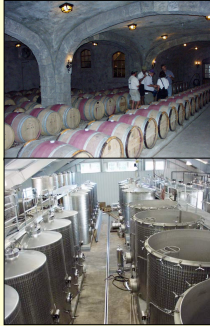


Sustainable Management of Wastewater and Energy in the Winery



- New York Regulations
 - T. Martinson
- General planning for wastewater treatment
 - William D. Smith, Rochester
- Winery Self-assessment worksheets from California
 - Chris Savage, E&J Gallo
 - Bob Chrobak, Kennedy-Jenks Consulting
- Draft design for land application
 - Lisa Greenwood, RIT

Winery Wastewater Regulation in NY

- Wineries are industrial food processing facilities
- SPDES permit required
- <10% of 200 NYS wineries have one
- Wineries liable to enforcement, potential fines
- DEC enforcement responds to complaints

Don't Ask, Don't Tell

Providing NY wineries with basic information on winery wastewater permitting, management and design options

- Factsheets
 - I. General issues and regulations:
 - II. SPDES permits
 - III. 'Part 360' Land Application
 - IV. Design and treatment options, based on size and volume
 - V. Practical First Steps (to reduce cost)
- Discussion of regulatory issues with DEC and stakeholders



Funding:
 • NY Wine and Grape Foundation
 • John Martini (Anthony Rd. Winery)

What this covers:

- Waste water generated by wine production only
- NOT sanitary wastes (eg. tasting room septic systems)
- Separate winery waste streams from septic sanitary wastes.

What water quality problems addressed?

- 'Biochemical oxygen demand' (BOD).
 - Presence can deplete oxygen in water.
- Winery wastes vs sanitary wastes
 - Winery: 2,000-5,000 mg/L (ppm) Winery
 - Household: 100-200 mg/L
 - 10 to 25x 'potency'
- Inorganic Ions (N, K), inorganic salts (cleaning products)

SPDES Permits

Dave Kiser, Region IV presentation at Viticulture 2007

- Regulate discharge to surface or ground water
- Requires licensed engineer to develop treatment plans and design specifications.
- Review, Approval by DEC water quality engineer
- No 'size' threshold. Apply whether 300 or 300,000 gal of wine produced.

Information to Support Design

- Volume of wastewater
- Composition of wastewater
- Seasonal flows
- Site characteristics (e.g. perc. rates)
- Beverage supplement:
 - Amount of grapes processed during crush
 - Volume of finished product (gal. produced)

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- Design and plan by licensed engineer reviewed and approved
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Monitoring Reports

After installation

- Regularly sample, analyze and report discharges
- Quarterly, Monthly, or Annually
- Includes: testing by Dept. of Health-certified laboratory

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John Thompson, DEC Div. Solid Waste presentation at Viticulture 2007

- Land application of process water
- Registration (not 'Permit') by application
- No formal review, engineering
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Registration requirements

- Fill out an application form
- USGS topographic map or soil map of site
- One representative analysis of wastes
 - Heavy metals
 - Organic constituents
- Send in the form to DEC
- Receive form back with registration number attached.

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Part 360 Application form

New York State Department of
Environmental Conservation

www.dec.ny.gov

Department Use Only

DEC Registration #

DEC Application #

Date Received

REGISTRATION FORM FOR A SOLID WASTE MANAGEMENT FACILITY

(DSS-260-0-0-00-00)

This form requires a registration fee related to the type of facility. Please read and fulfill all requirements before completing this registration form.

NOTE: This is a 12-month form. Once approved, facilities must comply with applicable regulations on the Part 360. All approved facilities must comply with the rules in this Part 360, including permit renewal requirements.

A. TYPE OF FACILITY REGISTRATION (check all applicable boxes)

☐ 1. Land application and a separate storage facility for noncontaminated (non-hazardous) waste or hazardous waste (DSS-1-A-0-0-00-00)

☐ 2. Land application facility for storage from one boiler room only (see note below for the other boiler room facilities) (DSS-1-B-0-0-00-00)

☐ 3. Storage facility for waste (DSS-1-C-0-0-00-00)

☐ 4. Storage facility for waste (DSS-1-D-0-0-00-00)

☐ 5. A thermal incinerator facility (DSS-1-E-0-0-00-00)

☐ 6. Composting facility that accepts less than 1,000 cubic yards but more than 100,000 cubic yards of waste per year (DSS-1-F-0-0-00-00)

☐ 7. Composting facility that accepts more than 1,000 cubic yards of waste annually (see note below for the first processing year) (DSS-1-G-0-0-00-00)

☐ 8. Composting facility for first processing year (DSS-1-H-0-0-00-00)

B. OWNER AND SITE INFORMATION

1. Use and address (include registration fee in \$):

Company name and address (Corporate Name, first and last name) (1)

Name _____

Address _____

Contact Person _____

e-mail _____ Phone _____

Applicable fee

Class _____

Address _____

* Attach a 150GB registration map to a commercially available map of waste site showing the exact location of the registration site.

* Attach information needed to bring compliance with the registration rules at 360-4.

Where Type _____ View Details (see page 10)

* For Composting, storage and disposal facilities registration fee at 360-4, 6, 7, 8, 9, 10.

Facility fees

Name _____

Address _____

Contact Person _____

Phone _____

e-mail _____

(7/01)

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(1/01)

Page 1 of 1

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A. TYPE OF FACILITY REGISTRATION (check all applicable boxes)

☐ 1. Land application and a separate storage facility for noncontaminated (non-hazardous) waste by landowner only. [DSS-2-0-0-0-00]

☐ 2. Land application facility for storage from one holder only that does not include the landowner's waste. [DSS-2-0-0-0-00]

☐ 3. Storage facility for waste by the owner from one holder only as soon as this waste is received. [DSS-2-0-0-0-00]

☐ 4. Storage facility for waste by the owner from one holder only as soon as this waste is received for collection. [DSS-2-0-0-0-00]

☐ 5. Composting facility that accepts less than 1,000 cubic yards but no more than 10,000 cubic yards of waste per year. [DSS-3-0-0-0-00]

☐ 6. Composting facility that accepts less than 1,000 cubic yards of waste annually for collection. [DSS-3-0-0-0-00]

☐ 7. Composting facility for third processing route. [DSS-3-0-0-0-00]

B. OWNER AND SITE INFORMATION

1. Use and address (include registration fee in \$):

Company name and address (Corporate Name, first and last name) (in the future)

Name _____

Address _____

Contact Person _____

e-mail _____ Phone _____

Applicable fee

Owner _____

Address _____

- * Attach 17500 registration fee as a non-refundable credit for waste collection during the next business of the registration term.
- * Attach information needed to bring compliance with the registration rules at 360-4.

Where Type _____ View Details (see page 10)

For completion, complete and attach facility registration fee at 360-4, 6, 7, 8, 9, 10.

Facility fees

Name _____

Address _____

Contact Person _____

e-mail _____

(7/07)

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(1/07)

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What this would require

- On-site storage (holding tank for liquid wastes)
- Land sufficient to apply wastes at 'agronomic rates'
 - By N and/or P content
 - 25,000 gal/acre approx 60-70 lb/acre N (2.5% solids in waste water)

100,000 gal wastewater would require << 4 acres of land

Land Application Area Requirements

- Setbacks from property lines
- Depth to bedrock (>2 ft)
- Hydraulic loading (< 16,000 gal/acre per application – 2/3 in rain equivalent)
- Slope < 8%, <4% if frozen
- Soils: not gravelly
- 'Agronomic rates'

Size Limits

There are no size limits.

Limitation is availability of sufficient land suitable for application at agronomic rates

A low-cost, simple solution to winery wastewater disposal?